Accredited Standards Committee*
InterNational Committee for Information Technology Standards (INCITS)

Doc. No.: T10/05-035r0
Date: January 20, 2005
Reply to: John Lohmeyer

To: T10 Membership
From: Ralph Weber and John Lohmeyer
Subject: SCSI Commands, Architecture, & Protocol Working Group Meeting -- Jan 18-19, 2005
            Las Vegas, NV

Agenda

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6. SCSI Protocol Topics
    6.1   Fibre Channel Protocol
7. Old Business
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8. New Business
9. Review of Working Drafts
10. Review of Recommendations to the Plenary
11. Meeting Schedule

12. Adjournment

Results of Meeting

1. Opening Remarks

John Lohmeyer called the meeting to order at 1:30 p.m. Tuesday, January 18, 2005. He thanked Dan Colegrove of Hitachi GST for hosting the meeting.

As is customary, the people attending introduced themselves.

2. Approval of Agenda

The draft agenda was approved with no additions or changes.

No items were added/revised during the course of the meeting.

3. Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 member-ship. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

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          Name                   S          Organization
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Ms. Pat Thaler                     P  Agilent Technologies
Mr. Noud Snelder                   V  BDT
Mr. Robert Snively                 P  Brocade Comm. Systems, Inc.
Dr. Claudio DeSanti                P  Cisco Systems, Inc.
Mr. David Peterson                 P  CNT
Mr. Kenneth Hirata                 A  Emulex
Mr. Robert H. Nixon                P  Emulex
Mr. Ralph O. Weber                 P  ENDL Texas
Mr. Walt Hubis                     V  Engenio Information Tech.
Mr. Neil Wanamaker                 V  Finisar
Mr. Mike Fitzpatrick               P  Fujitsu
Mr. Nathan Hastad                  P  General Dynamics
Mr. Michael Banther                V  Hewlett Packard Co.
Mr. Rob Elliott                    P  Hewlett Packard Co.
Mr. Dan Colegrove                  P  Hitachi Global Storage Tech.
Mr. George O. Penokie              P  IBM / Tivoli Systems
Mr. Kevin Butt                     A  IBM Corp.
Mr. Robert Sheffield               P  Intel Corp.
Mr. Martin Furuhjelm               AV Lexar Media, Inc.
Mr. Steffen Hellmold               V  Lexar Media, Inc.
Mr. Pat LaVarre                    AV Lexar Media, Inc.
Mr. Steve Johnson                  V  LSI Logic Corp.
Mr. John Lohmeyer                  P  LSI Logic Corp.
Ms. Dana Zelitzki                  V  M-Systems
Mr. Mark Evans                     P  Maxtor Corp.
Mr. Craig W. Carlson               A  QLogic Corp.
Mr. Paul Entzel                    P  Quantum Corp.
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Dr. Paul Suhler                  A   Quantum Corp.
Mr. Gerald Houlder               P   Seagate Technology
Mr. William Martin               P   Sierra Logic, Inc.
Mr. Erich Oetting                P   Storage Technology Corp.
Mr. Charles Binford              A   Sun Microsystems, Inc.
Mr. Vit Novak                    P   Sun Microsystems, Inc.
Mr. Ron Mathews                  AV  UNISYS Corporation
Mr. Roger Cummings               P   Veritas Software
Mr. Greg Wheeless                A   Veritas Software
Mr. Curtis Stevens               P   Western Digital
Mr. Jeff Williams                AV  Xiotech Corp.


38 People Present

Status Key:  P   -  Principal
             A,A# -  Alternate
             AV  -  Advisory Member
             L   -  Liaison
             V   -  Visitor
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4. SCSI Architecture Model Topics

4.1 SAM-4:Converting to UML part 1 (04-023) [Penokie]

George Penokie requested that discussion of this topic be deferred to the next meeting.

4.2 SAM-3 SAS-1.1 FCP-3 - Retry Delay (04-297) [Penokie]

George Penokie presented a proposal to define a mechanism to help initiators determine how long a Busy or Task Set Full status will be returned by a target (04-297r1). The group requested minor changes and George agreed to prepare a new revision of the proposal.

George Penokie moved that 04-297r2 (r1 as revised) be recommended for inclusion in SAM-4, FCP-3, and SAS-2. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

4.3 SAM-4 SAS-1.1 I_T NEXUS LOSS task management function (04-372) [Elliott]

Rob Elliott presented a proposal to add an I_T nexus reset task management function to SAM-4, SPC-4, and SAS-1.1 (04-372r1). The group requested minor changes and Rob agreed to prepare a new revision of the proposal.

Rob Elliott moved that 04-372r2 (r1 as revised) be recommended for inclusion in SAM-4, SPC-4, and SAS-2. Gerry Houlder seconded the motion. In the absence of any objections, the motion passed unanimously.

5. Command Set Topics

5.1 Reservations Proposals

No reservations proposals were brought before the group.

5.2   SCSI Primary Commands Proposals

5.2.1   Response to T10 Letter Ballot comments on SPC-3 (04-355) [Weber]

Ralph Weber led the group in a review of several SPC-3 letter ballot comments (04-355r3). Agreed resolutions will be reflected in 04-355r4. Ralph noted that SPC-3 letter ballot comment resolution will continue following the T10 plenary meeting on Thursday.

5.2.2   SPC-3: Log Parameter Subpages (04-389) [Butt]

Kevin Butt requested that discussion of this topic be deferred to the next meeting.

5.2.3   SPC: Time-Of-Day (04-271) [Butt]

This topic was discussed under agenda item 5.2.8.

5.2.4   VPD Page 83 Identifier s/b Designator Changes (05-003) [Weber, Penokie]

Ralph Weber requested that discussion of this topic be deferred to the next meeting.

5.2.5   SPC-4: Enable Background Operation Error Reporting Bit (04-371) [Penokie]

George Penokie requested that discussion of this topic be deferred to the next meeting.

5.2.6   SPC-3: Identification Descriptor Rules for Target Names (05-020) [Penokie]

Ralph Weber reported that the changes described in this proposal are covered in the SPC-3 letter ballot comments resolution document (04-355) as comment Other 17.

5.2.7   REPORT LUNS and peripheral qualifier/device type 7Fh (reflector discussion) [Weber]

The group agreed that this issue is covered by SPC-3 letter ballot comments Other 18 and Other 23 (04-355r3). Both comments were accepted as technical changes.

5.2.8   SPC-3: Timestamp, 04-271, Questions/Answers (05-021) [Penokie]

George Penokie reviewed a set of questions and corrections for approved proposal 04-271r4 (05-021r0). Concerns were raised about the requirement that all logical units within a SCSI target device have the same time stamp. George Penokie agreed to revise the proposal.

George Penokie moved that the SPC-3 editor be instructed to use 05-021r1 in addition to 04-271r4 to resolve SPC-3 letter ballot comment Other 2.

5.3   SCSI Block Commands Proposals

5.3.1   Background Media Scan (04-198) [Houlder]

Gerry Houlder presented a proposal to add background media scan controls to SBC-2 and SPC-4 (04-198r3). The group requested several changes and Gerry agreed to prepare a new revision of the proposal for consideration at the next meeting.

5.3.2   SBC-2: Proposal for USB Solid State Drive Mode Sense specification (04-362) [LaVarre]

Pat LaVarre presented a proposal for defining mode, log, and VPD pages for USB solid-state drives (04-362r1). The group suggested several changes and Pat agreed to prepare a new revision for consideration at the next meeting.

5.3.3   SBC-2: Math error in Note 10 (reflector message) [Lohmeyer]

John Lohmeyer said that he had received an email from Lloyd Kremer of Cybernetics pointing out a math error in Note 10 of SBC-2. The note says:

> NOTE 10 - Although the READ (6) command is limited to addressing logical blocks up to a capacity of 2 Gigabytes, for block lengths of 512 bytes, this command has been maintained as mandatory since some system initialization routines require that the READ (6) command be used. System initialization routines should migrate from the READ (6) command to the READ (10) command, which is capable of addressing 2 Terabytes with block lengths of 512 bytes, or the READ (16) command to address more than 2 Terabytes.

Lloyd pointed out that READ(6) can only access 1 Gigabytes for a block size of 512 bytes. John said that there are several actions we can take to correct this error:

a) Revise SBC-2 and take the 3-month schedule hit
b) Fix the error in the International version of SBC-2
c) Fix the error in SBC-3
d) Publish an amendment to SBC-2

Since the main point of the note is to explain that READ (6) has been retained for compatibility with some BIOS code, John recommend options b) and c) only.

Bill Martin moved that option c be done. Bob Snively seconded the motion. In the absence of any objections, the motion passed unanimously.

George Penokie moved that the editor be instructed to make the change in the ISO version SBC-2 (option b). Bob Snively seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4   SCSI Enclosure Services Proposals

5.4.1   SES-2 Define a SAS Expander element (04-374) [Elliott]

Rob Elliott presented a proposal to define an element format for SAS Expanders (04-374r2). The group requested that the connector element numbers be added to one of the tables and Rob agreed to revise the proposal.

Rob Elliott moved that 04-374r3 (r2 as revised) be recommended for inclusion in SES-2. Bob Sheffield seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4.2   SES-2 Download Microcode diagnostic page (04-377) [Elliott]

Rob Elliott presented a proposal to define a mechanism for downloading microcode to attached SES devices (04-377r1). The group requested several changes and Rob agreed to prepare a new revision.

Rob Elliott moved that 04-377r2 (r1 as revised) be recommended for inclusion in SES-2. Bob Nixon seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4.3   SES-2 Subenclosure Nickname diagnostic page (04-382) [Elliott]

Rob Elliott presented a proposal to define a Subenclosure Nickname page for SES devices (04-382r0). The group discussed how the language of the nickname is specified and Rob explained how the subenclosure language element affects the setting of a new nickname.

Rob Elliott moved that 04-382r1 be recommended for inclusion in SES-2. Bob Snively seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4.4   SES-2: Audible Alarm Element Addition (05-005) [Marks]

In the absence of Kevin Marks, discussion of this topic was deferred to the next meeting.

5.4.5   SES-2 Display element enhancements (05-011) [Elliott]

Rob Elliott presented a proposal to add an element to manage display elements, which would be represented as one display element for every character in the physical display (05-011r0). The group requested that the proposal be revised to use the subenclosure String Out and String In pages to transfer displayed values as ASCII or Unicode strings. Rob agreed to prepare a revised proposal for consideration at the next meeting.

5.5   Other Proposals

No other proposals were brought before the group.

6.   SCSI Protocol Topics

6.1   Fibre Channel Protocol

No Fibre Channel protocol topics were identified as needing consideration by this working group.

7.   Old Business

7.1   ATA Command Pass-Through (04-262) [Stevens]

Curtis Stevens reported that discussion of this topic is now being handled in the SAT working group.

8.   New Business

No new business was brought before the group.

9.   Review of Working Drafts

No requests were made to review working drafts at this meeting.

10. Review of Recommendations to the Plenary

Ralph Weber noted that the following recommendations have been made to the T10 plenary:

> For inclusion in SAM-4, SPC-4, and SAS-2:
> 04-372r2 (I_T NEXUS LOSS task management function) [Elliott]
>
> For inclusion in SAM-4, FCP-3, and SAS-2:
> 04-297r2 (Retry Delay) [Penokie]
>
> For inclusion in SES-2:
> 04-374r3 (Define a SAS Expander element) [Elliott]
> 04-377r2 (Download Microcode diagnostic page) [Elliott]
> 04-382r1 (Subenclosure Nickname diagnostic page) [Elliott]

11. Meeting Schedule

The next meeting of the SCSI Commands, Architecture, and Protocols Working Group will be Tuesday, March 8, 2005 commencing at 1:30 p.m. and continuing Wednesday, March 9, 2005 from 9 a.m. to 6 p.m. (or until all agenda items are completed). The meeting will be in Dana Point, CA at the Laguna Cliffs Marriott Resort (800-545-7483), hosted by QLogic.

12. Adjournment

The meeting was adjourned at 6:00 p.m. on Wednesday January 19, 2004.